

CLAIMS:

1. Vesiculated polymer particles characterised in that they include particulate solids and have associated with the surfaces thereof, long chain aliphatic chemical groups and/or sterically hindered, branched chained chemical groups.

5 2. Vesiculated polymer particles according to claim 1 characterised in that the chemical groups are hydrophobic.

3. Vesiculated polymer particles according to claim 1 or claims characterised in that the chemical groups include at least one polymerisable carbon - carbon double bond with linear, branched or cyclic moieties having at least four carbon atoms, including but not
10 limited to :

Glycidyl methacrylate; Octadecene; Lauryl methacrylate; Ethylene glycol di methacrylate (EGDMA); Cyclohexene; Acrylated castor oil; Acrylated ricinoleic acid; Methacrylated ricinoleic acid; Hydroxy-ethyl acrylate; Soya Bean Oil; Unsaturated fatty acids, e.g. Oleic acid, tallow fatty acid; Unsaturated fatty alcohols, e.g. Oleyl alcohol,
15 pentadeca-12-ene-1-ol.; Oleamide; Triglycerides, e.g. tall oil, ting oil; Ethylenic unsaturated urethanes; Acrylic unsaturated urethanes; Air drying short oil alkyds; Alkyl and Aryl Esters of maleic anhydride, singly or in combination.

4. A raw material composition for manufacture of vesiculated particles according to any of the above claims characterised in that it includes a carboxylic acid functional,
20 free-radical polymerisable polyester resin, a co-reactive diluent monomer and a modifying co-monomer, the modifying co-monomer including at least one polymerisable carbon - carbon double bond with linear, branched or cyclic moieties having at least four carbon atoms, including but not limited to :

Glycidyl methacrylate; Octadecene; Lauryl methacrylate; Ethylene glycol di methacrylate (EGDMA); Cyclohexene; Acrylated castor oil; Acrylated ricinoleic acid; Methacrylated ricinoleic acid; Hydroxy-ethyl acrylate; Soya Bean Oil; Unsaturated fatty acids, e.g. Oleic acid, tallow fatty acid; Unsaturated fatty alcohols, e.g. Oleyl alcohol, pentadeca-12-ene-1-ol.; Oleamide; Triglycerides, e.g. tall oil, ting oil; Ethylenic unsaturated urethanes; Acrylic unsaturated urethanes; Air drying short oil alkyds; Alkyl and Aryl Esters of maleic anhydride, singly or in combination.

- 5 5. Vesiculated polymer particles according to claim 4 characterised in that the modifying co-monomer comprises 3 to 20% by mass of the reactive diluent monomer.
- 10 6. Vesiculated polymer particles according to claim 5 characterised in that the modifying co-monomer comprises 5 to 9% by mass of the reactive diluent monomer.
7. Vesiculated polymer particles according to claims 4 to 6 characterised in that the diluent monomer comprises ethylenic, acrylic and methacrylic functional monomers, singly or in combination.
- 15 8. Vesiculated polymer particles according to claim 7 characterised in that the diluent co-monomers comprise styrene, butyl acrylate, methyl methacrylate, singly or in combination.
9. Vesiculated polymer particles according to claims 4 to 8 characterised in that the polyester resin composition comprises by mass %, propylene glycol 30,35%, phthalic
20 anhydride 12,96%, maleic anhydride 25,75%, styrene 30,75%, inhibitor (10% solution) 0.18%.

10. A method of manufacture of vesiculated particles according to claims 1 to 3 characterised in that it includes the steps of :

- pre-dispersing pigment particles in a polyester;
- dissolving the pre-dispersed pigment-polyester in a suitable monomer in the
5 presence of a water-soluble base;
- forming a stable emulsion of droplets of solution of the pre-dispersed pigment-polyester and monomer (oil phase) in water;
- adding a hydrophobic monomer
and polymerising the polyester and co-polymerisable monomer thereby
10 producing granules of opaque, cross-linked vesiculated particles as a dispersion in water, the particles including hydrophobic groups associated with their surfaces.

11. A method of manufacture of vesiculated particles according to claim 10 characterised in that the base comprises a polyamine.

15 12. A method of manufacture of vesiculated particles according to claim 11 characterised in that the base comprises diethylenetriamine.